ACTD / JCTD Technology Managers Course 5-8 Dec, 2005

Advanced Concept Technology Demonstration/Joint Capability Technology Demonstration

“Getting Started”

December 5, 2005

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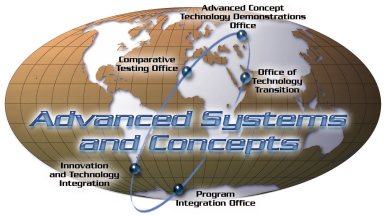


Innovation… just tell me I can't do it!

"No flying machine will ever fly from New York to Paris."
- Orville Wright.

"Airplanes are interesting toys but of no military value."
- Marshal Ferdinand Foch [Professor of Strategy, Ecole Superieure de Guerre] (circa 1911)
He was Supreme Commander of Allied forces, 1918

"Airplanes suffers from so many technical faults that it is only a matter of time before any reasonable man realizes that they are useless!"
- Scientific American (1910)

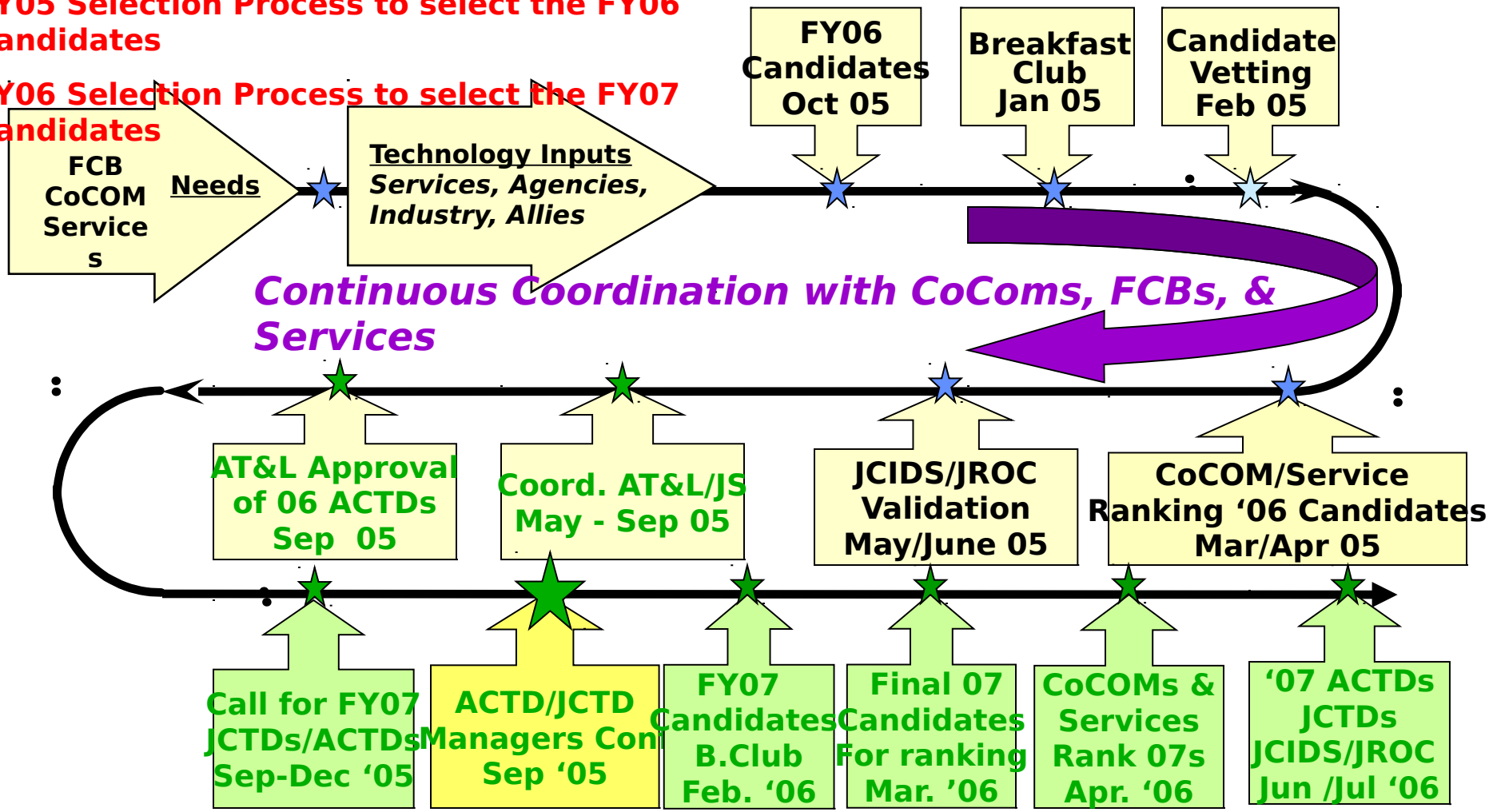
"Even if a submarine should work by a miracle, it will never be used. No country in this world would ever use such a vicious and petty form of warfare!"
- William Henderson, British Admiral (1914)

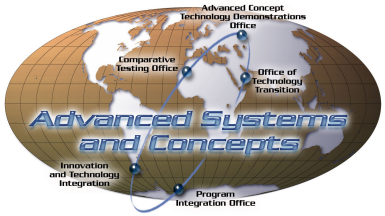
"Radio is just a fashion contrivance that will soon die out. It is obvious that there never will be invented a proper receiver!"
- Thomas Edison

ACTD/JCTD FY-06 / 07 Program Timeline

FY05 Selection Process to select the FY06 Candidates

FY06 Selection Process to select the FY07 Candidates





Key Steps in the Process FY-2006 ACTD Selection

- Call for Candidates (Sep 2005)
- Concept Formulation and Initial Socialization
- Breakfast Club (Feb 2006)
- Concept Refinement and Socialization
- CoCom and Service Ranking (Apr/May 2006)
- JROC Review/Validation (May-Sep 2006)
- AT&L/JS Coordination (May 2006)
  - AT&L Approval
- DoD Budget Approval
- Congressional Notification (30 Day)
- Implementation Directive Signed by DUSD(AS&C)
- ACTD Start (1st Quarter FY07)

ACTD Goals

- **Develop Military Utility Analysis (MUA) of concepts and technologies**
  - Do it Early and… Keep it Inexpensive
  - Does the concept make sense?
  - Done by users (CoCom & Independent Assessor)
- **Provide experience for an informed acquisition decision**
  - Establish real requirements/TTPs
  - Explore joint and combined solutions
  - Develop real concept of operations
  - Try before buy
- **Aim for early transition to acquisition or sustainment**
  - User and service decision
  - Accelerate the acquisition process
  - Sustain software products
- **Leave a "Go to War" residual where appr**
  - ACTD products that can be used immediately
  - Viable & supportable concept of operation

ACTD Objectives

Formal Success Objectives

- ✓ Rapid transition to Defense Program of Record, GSA Schedule, etc.
- ✓ Satisfaction of operational requirement with residuals (& sustain)
- ✓ Confirmation that technology/op concept appropriate for joint military use

- or not!

Informal Success Objectives

- ✓ Develop operational concepts (DOTMLFP) employing proposed technologies
- ✓ Contribute technical elements into existing / new programs

Informal Failure Indicators

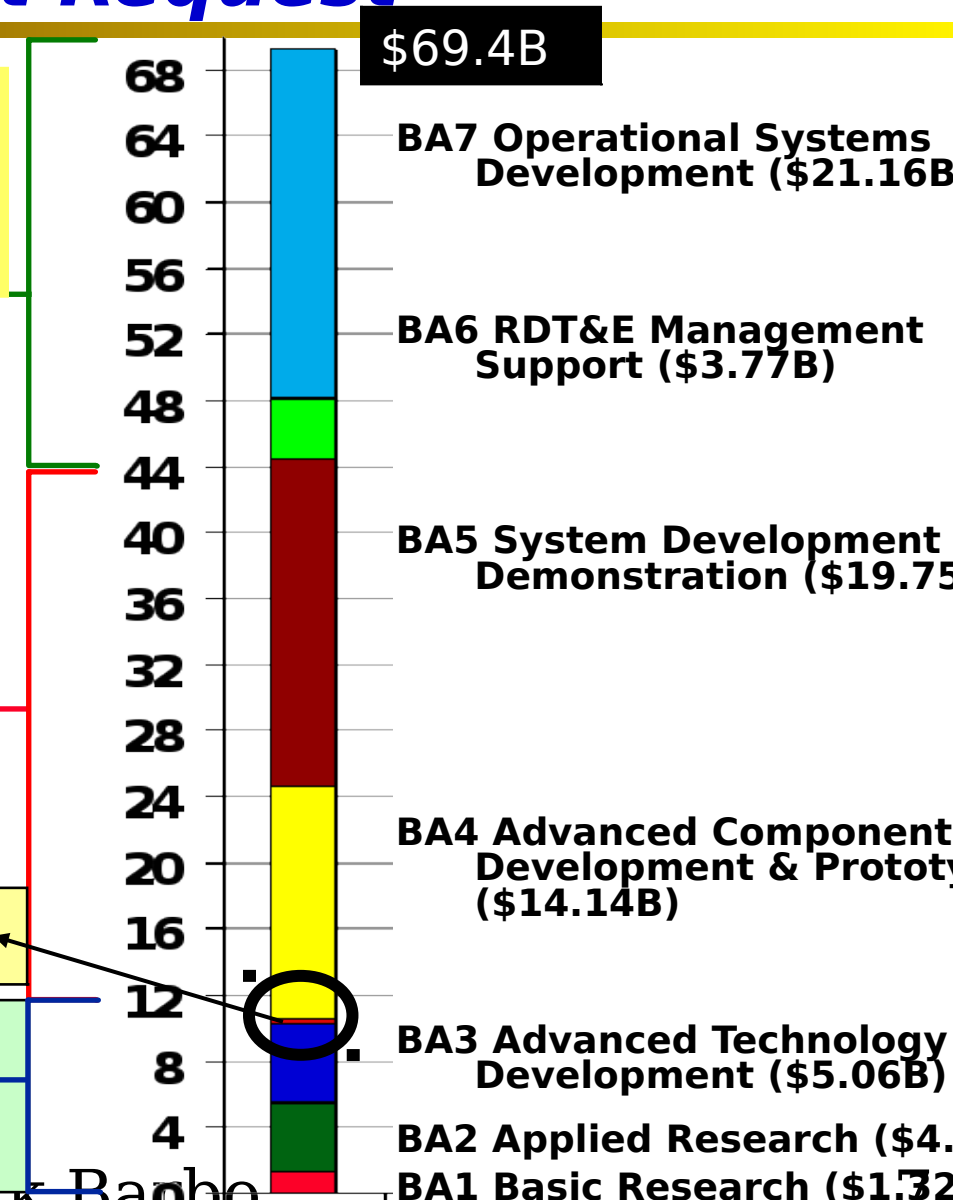
- Overlook technologies to solve known military problems
- Allow spiraling technologies / requirements to postpone transit
- Pursuing low risk technologies to ensure successful demonstrations
- Focus on popular single-service ACTDs at expense of tough joint efforts

FY 2006 RDT&E President's Budget Request

OSD Defense Wide Transition Programs Highly Leveraged across Service and Agency Budgets.

Less than half a percent of RDT&E supports AS&C programs

Components (All RDT&E)	$B
USA	9.73
USAF	22.61
USN	18.04
Def Agency & SOCOM	18.97



(BA6 + BA7 = $24.93B)

Development (BA4 + BA5 = $33.89B)

Defense Wide DUSD (AS&C) RDT&E Support Totals $311 M (~200 M from ACTD/JCTD BA-3)

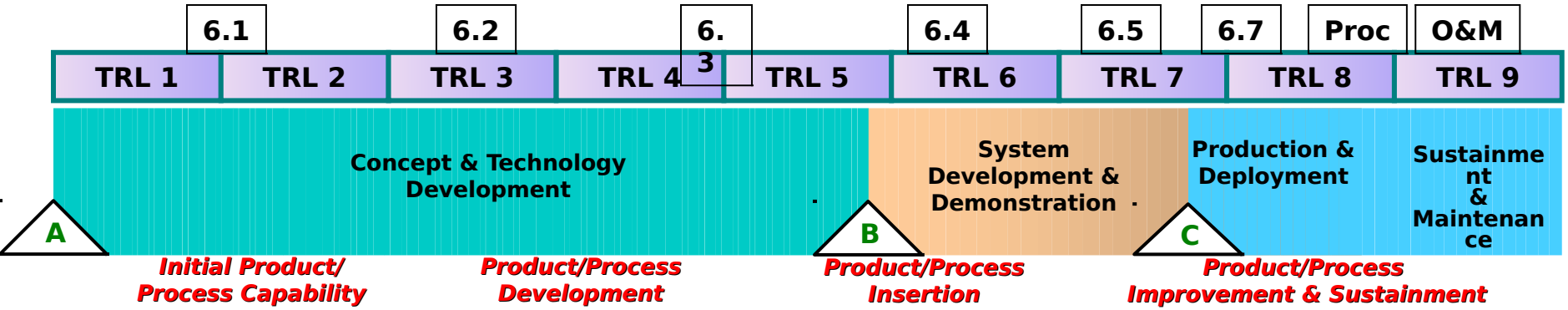
Technology Base (BA1 + 2) = $5.46B)

Science and Technology (BA1 + BA2 + BA3 = $10.52B)

15% of RDT&E

Dr. Mark Rapp

Agile Acquisition Processes



Service S&T, DTRA and DARPA Programs

Rapid Acquisition Programs

JFCOM Prototypes

Joint/Coalition focused – Demo 2-4 yrs

ACTDs/JCTDs

6-12 mo fielding

QRSP Quick Reaction Fund/ CTTTF/ IED Task Force

Congressionally Directed – Tech Refresh

Defense Acquisition Challenge

Service Driven – Test to Procure

Foreign Comparative Testing

Connects the commercial sector to DoD sharing the best from both for mutual benefit

Independent Research & Development *(Contractor Funding)*

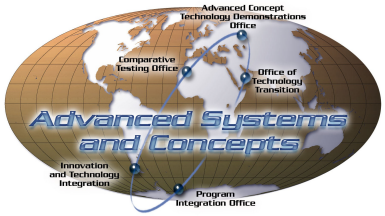
Tech Link

Manufacturing Technology

Tech Transition Initiative

Title III of the Defense Production Act

Note: JRAC – re-direct authority



Why do ACTDs (JCTDs)?

We can employ even better as a cohesive joint/coalition force…
And, dispel even the 'harshest' critics…

'Old' Theory of Joint Communication

The reason the Air Force, Army, Navy and Marines can't agree on anything is that they don't speak the same language.
For instance, take the simple phrase "secure the building".

The Army... will post guards around the place.
The Navy... will turn out the lights and lock the doors.
The Marines... will kill everybody inside and set up a headquarters.
The Air Force... will take out a 5 year lease with an option to buy.

A / JCTD Team Members

Core Team:

- Operational Manager and Deputy(s), CoCOM User Sponsor
- Technical Manager, Lead Agency / Service
- Transition Manager, PEO / PM / SPO
- Coalition Partners
- Industry Partners
- Oversight Executive, ODUSD(AS&C)

Expanded Team:

- Functional Capability Representative
- Independent Assessor (ATEC/AFOTEC etc)
- Other CoCOMs, Services and Agencies

ACTD Joint Capability Transition Goals

- Get new, *relevant, mature* technology to warfighters *quickly*
  - *Demonstration program, not a procurement program*
  - *Aims to provide options that can lead to accelerated procurement*
- Overcome resistance to transformational concepts
- Assist integration of technology, joint doctrine & coalition operations
- Enhance combatant commander options for integrated employment of core Military Service capabilities
- Not an acquisition program; chartered to bypass delays in fielding innovative capabilities

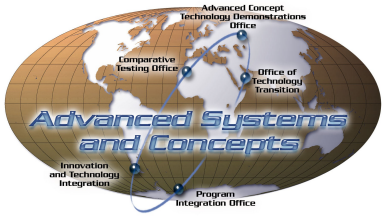
ACTD Prime Customers: Joint Combatant Commanders

Phase One… Getting Started

Implementation Directive – *What* we're going to do

- **THE single most important document for ACTD/JCTDs**
  - Contract between participants as to resources and what is anticipated to be delivered
  - Reference to go back to as things change – what were we REALLY going to do?
  - Coalition? NATO? … Get help from us!
- **ID is required to clarify roles and responsibilities to execute the project**
  - Need it to get started! First reqmt … Money!
    - TM usually leads the effort
  - If you *start* working at JROC validation, you're probably behind the power curve!
    - Staffing and final signatures of the ID occurs during the Congressional Notification period.
  - *"The final signature by the DUSD/AS&C constitutes formal approval for initiation of an ACTD and will trigger transfer of OSD funds to the executing agent"*

Have your ID ready for approval cycle as soon as the DUSD(AS&C) FY approval letter is released



Phase One… Getting Started

Management Plan … *How* we're going to do this

- **It's a *Plan*, not a *Directive***
  - *"Plans are nothing; planning is everything."* ***Dwight D. Eisenhower***
  - The document from which you **will** deviate
  - This CAN be combined with ID, but remember, the ID is your CONTRACT
- **Reference document as to how you plan to execute**
  - Discuss with your OE as to how much detail is needed
  - ***Integrated Master Schedule – day-to-day reference***
  - Keep this up to date - lots of changes indicates you may need to step back and make sure you're on track!
- **Final step of ACTD Initiation**
  - Ideally, 90 days after ID is signed
  - Bottom Line: *No 2nd year money until MP is signed!*

MP fleshes out way ahead

Integrated Master Schedule in MP keeps you on track

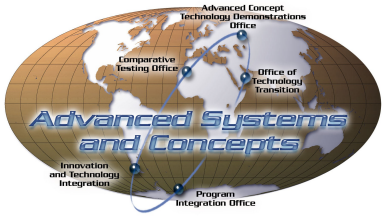
Phase Two… Execute the ACTD

Oversight Group … Board of Directors, Chairman: DUSD(AS&C)

- **Initial meeting of the ACTD Oversight Group should be scheduled during the 1st year of the program**
  - Confirm the planned direction of the program and, if necessary, to resolve any outstanding issues relating to the Management Plan
- **Use when needed to resolve issues during ACTD**
  - Talk to Oversight Executive first
    - OE and OG have luxury of not being in the day-to-day fight
    - "Can't see the forest for the trees…."
- **Can/should be done annually at the sponsoring CoCom Conference**
  - Purpose of this meeting is to review ACTD preparations and progress
  - Objective is to resolve or assist in resolving any major issues which

OG is the group of seniors that makes sure you're on track and helps resolve resource, policy, other issues

Big guns that want to help!



Phase Two… Fun Part! (Execute)

Remember the goal – provide the warfighter with new, improved capabilities as rapidly as possible

- ***Team communication is the key***
  - Things will move quickly, change is inevitable, stuff won't work as planned
    - *Be ready for it up front – TM/XM/OM/OE need to know each other's capabilities well!*
  - Master schedule is the Master Reference
- **Management structure may be different from planning, focus WILL shift during execution**
  - Each project/team is different, each will have to find what works best
    - Example modes:
      - "Troika": TM, XM, OM are all equals working as a collaborative body
      - "Customer/Provider": OM is the customer, TM/XM team is the provider
  - Emphasis will shift
    - TM/OM strong at start up, XM identifies transition issues to work
    - Nearing MUA time: OM strong, TM/XM support, XM workload increases
    - During/post MUA: XM strong, TM/OM support

Communicate, communicate, communicate!

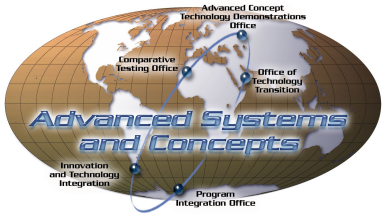
Phase Two… Fun Part! (Execute)

Remember the goal – provide the warfighter with new, improved capabilities as rapidly as possible

- **OE's role**
  - Differs from team to team, project to project, OE to OE
  - OE is NOT a program manager!!!
    - Provides guidance, top cover, resources, etc.
    - *Will* occasionally need PM-like info for OSD taskers –***You must respond quickly!***
  - Reference, mentor, subject matter expert, resource, bull in the china shop, etc.
- ***A well informed OE is your best friend***
  - Make sure your OE knows how you're doing as to cost, schedule, performance
  - Let OE know early and often what kind of problems you're having, help you need
  - Sounding board: bounce ideas off of someone who's been there
  - Family counselor: As project heats up, so do people
    - "We put the FUN back in dysFUNctional!"

OE's job is to help make you a hero by helping you delivering warfighter capability

They can only do this if you communicate to them!



Phase Two… Fun Part! (Execute)

As the project marches on ….

- **TM – Ensure developer (contractor, agency, etc.) of capability ready**
  - *Test early, test often*: use demos (with real users), IMUAs, etc. – eliminate BIG surprises!
  - Get the Red Teams involved – skeptics before the final check!
- **TM / OM – Draft Concept of Operations**
  - Ensure service & joint aspects are addressed
  - CONOPS Working Groups
- **OM - Continue to firm up details on Demonstration Plan & Venue**
  - Get testers involved ***Day One***
    - AFOTEC – Provides outstanding MUA support with operational flavor
  - Ensure strong Demonstration Plan & Venue
    - Visibility for leadership decisions
    - CoCom Lead
    - Basis for Military Utility Evaluation (MUA)
  - Make sure you understand what's available when
  - *Be flexible*

Phase Two… Fun Part! (Execute)

As the project marches on ….

- **XM – Identify transition line items**
  - Transition period “officially” starts with MUA
    - But you must work toward this from the very beginning
  - Collect info for transition documentation as it becomes available
    - Address the “-ilities” (Reliability/Sustainability/Availability/Maintainability/etc.)
    - Logistics footprint – very important!
  - Draft Transition Plan with force providers involved – Transition Working Groups
- **Team tasks (all of the previous are, but…)**
  - Refine CONOPS
  - Contingency Operations for real world tasking
    - May seem disruptive, but this is a VERY good thing!
    - Work with OE to tap other sources of funding to support real-world ops
- **Unplanned needs – UFRETS Program at AS&C**
  - Ensure your OE is supporting your ‘pop-up’ concerns
  - Communicate, communicate, communicate!

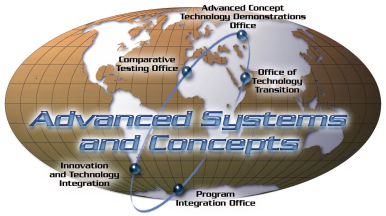
Phase Three… Finish the ACTD!

As the project nears the end ….

- ***Know when to stop***
  - *Best* is the enemy of good enough
  - If it's not going to work: call an OG
    - Cost, Schedule, Performance, Transition – all must be in sync
    - Not everything will work, know what must work to provide a viable outcome
  - Return to tech base is always an option
- **Transition is *everybody's* business**
  - Goal is to provide the warfighter with a sustainable capability
  - *The entire team needs to work POM and related transition actions, not just the XM*

The job's not done until the paperwork is complete!

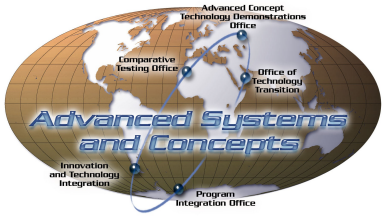
Transition requires everyone to put in their best effort to support short timelines for budgets, reprogrammings, etc.



Throughout …

The facts of life

- **Keep the Quad and ACTD summary up to date**
  - Hit and run kit needed for short notice presentations at all levels of the project
  - Keep one set, keep it current, everyone keeps on same page!
- **OE has deliverables… They equate to your project's money and success**
  - Examples:
    - Congressional Summary
    - DTOs
    - R-2 Exhibit Updates
    - JWSTP
- **Update the Functional Capabilities Board - FCB**
  - Or… Brief the Functional Area Working Group
    - Have your OE check with the AS&C FCB Coordinator
  - When? Midway in project, after Military Utility Assessment(s), or whenever a significant ops related activity occurs
  - ***Lays the groundwork for transition!***
- **Keep Services up to date**
  - Serivces POM – they need to be informed as you go to help lead turn budget issues!
  - Keep leadership informed of progress… Keep the POM issue strong!

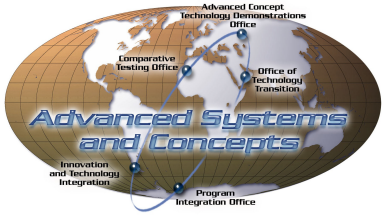


Conclusion

- **Get started on ID & Mgmt Plans right away**
- **Keep it simple and Focus your effort**
- **Get the right players on your ACTD Team**
- **Use your OE & Oversight Group for issue handling before they get too big!**
- **Communicate!!!!!**
- **Plan Transition early with right players & insert POM**
- **OM – Think Demo & MUA early**
- **TM/OM/XM/OE – Cohesive Team that meets regularly**
- **Use the FCBs… Keep them informed (OE)**
- **Focus - Focus**
- **Ensure ‘bridge’ plan for residual period**

GET TO WORK

You Aren't Being Paid to Believe in the Power of your Dreams.


Advanced Concept Technology Demonstrations Office
Comparative Testing Office
Office of Technology Transition
Advanced Systems and Concepts
Innovation and Technology Integration
Program Integration Office

DEPARTMENT OF DEFENSE
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- **BACK- UPs**

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There's Good Money to be Made in Prolonging the Problem.

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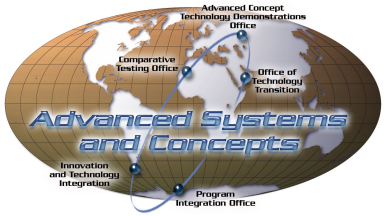


Conclusion

- **AS&C UNCLASS Web Site : http://www.acq.osd.mil/asc/**

- **Knowledge Information Management System (KIMS): https://kims.jpsd.belvoir.army.mil/actd/web/KIMSHome.aspx**

KIMS

(Knowledge Information Management System)

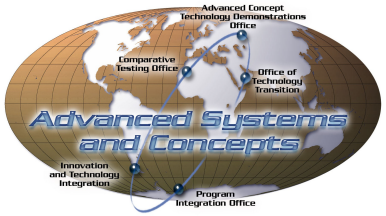
About KIMS:

The KIMS application automates tasks involved in both submission of Advanced Concept Technology Demonstration (ACTD) proposals and managing active ACTDs. KIMS supports the Department of Defense, Office of the Secretary of Defense, Advanced Systems and Concepts (AS&C) organization, which has oversight of the ACTD program. This KIMS application serves as an entry point for submission for proposals to both AS&C's and the USNavy's ACTD programs. ACTD proposals may be submitted to KIMS by industry, military, Services, other Defense or Government agencies or coalition partners. Proposals may be submitted at any time and do not need to be fully developed before their initial submission.

From this page, a submitter can move into either the USNavy's KIMS application or AS&C's. Future versions of the KIMS portal will add other organizations.

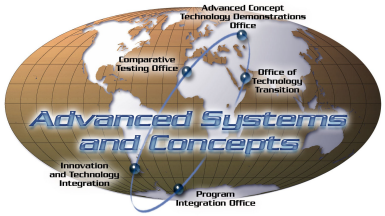
Breakfast Club Review

- The Breakfast Club Provides Critical Advise to the DUSD(AS&C) for Candidate Selection and Improvement
  - Confirmation of the Military Utility
  - Validation of the Technical Solution
    - Best of Breed
    - Deconfliction of Duplication
    - Technical Maturity
  - Validation of the ACTD Plan
    - Adequacy of Demonstration Approach
    - Rational Schedules
    - Potential for Transition
  - Review of the Funding Plan /Partnerships
    - Direct Funding vs. 'In Kind' Support
    - Other Potential for Sources



Concept Refinement and Socialization

- Continued Planning
- Response to Breakfast Club Input
- Coordination with all Players
- Process Continues Until JROC Presentation
- Output:
  - Refined Briefing
    - Executable Plan
    - Minimum Outstanding Issues
  - Draft Implementation Directive

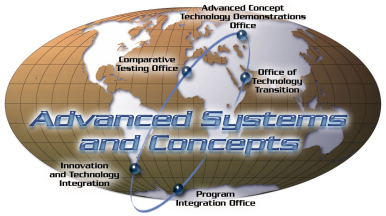


CoCom and Service Ranking

- Each CoCom and Service Ranks Candidates
  - **Greatest Benefit to Least Benefit**
- Candidate Briefings on SIPRNET & JWICs
- AS&C Combines Score
  - **Equal Weight for all CoComs and Services**
- Output:
  - Priority Ordered List of Candidates
  - Identification of CoCom Priorities

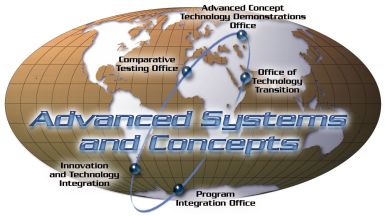
FCB/JCB/JROC (JCIDS) Review

- Functional Control Board Assessment of Candidates within Their Responsible Areas
  - **Proper Alignment with Predominate Interest**
  - **Conformance to Area Roadmap**
  - **Output: Advice to the JROC**
- JCB / JROC Review
- Output:
  - Confirmation of Candidates – Needs
  - Validated Initial Capabilities Document Equivalency



Congressional Notification

- New Start Notification required for all ACTDs (Public Law)
- Last five years required Congressional Report for ALL ACTDs each year, not just “new starts”
- Cannot Obligate RDT&E/DW resources until 30 days AFTER the Congressional Report reaches defense committees
- Relief of withhold of “ongoing” ACTD funds ---positive response from HAC-D



Implementation Directive

- DUSD Signature on Implementation Directive is the Formal Start of the ACTD
- Prerequisites Are:
  - AT&L Approval of Candidates
  - Signed DoD Budget
  - Completion of Congressional Notification
  - All Other Partners have signed ID

Collaborative Workshop

- **Provides Common Team Understanding of A / JCTD's Operational, Technical and Transition Aspects**
- **Involves OE, OM, TM, XM, Assessor, User Sponsor, Lead and Participating Agencies, Industry and Coalition Partners [as appropriate]**
- **Initiates / Enhances Cohesive Team Relationships**
- **Provides Core Information for….**
  - Preparation and Submittal of A / JCTD Candidate Proposal
  - Preparation for A / JCTD Candidate Review and Approval Process
  - Development of Implementation Directive and Management Plan [Incl: Preliminary Transition Plan appendix]
- **Collaborative and Iterative Information Int… Conducted Over 3 Days [ideally off-si…**
- **Tailorable for any A / JCTD**

Qualified Facilitator
A / JCTD Background
Required

Workshop Agenda

I. Overview

A. Joint / Coalition Warfighting Problem
B. Desired Warfighting Capabilities
C. Capabilities Shortfalls
D. Advanced / Joint Capabilities Solution
E. Top Level Capabilities / Metrics
F. Overall Demonstration Strategy

II. Operational Management

A. CONOPs / OV-1 Architecture
B. Joint / Coalition Military Utility Assessment Strategy
C. Demonstration Approach
D. Top Level Demonstration Venues and Scenarios

III. Technical Management

A. Technical Approach
B. Testing and Demonstration Approach
C. Architecture
D. Core technologies
E. Affordability
F. Interoperability and Integration
G. Training
H. Security

Serves as Management Plan Framework

Workshop Agenda

IV. Transition Management

A. Description of Products / Deliverables
B. Extended User Evaluation of Residual Package
C. Follow-on Development, Production, Fielding and Sustainment

V. Organizational and Programmatic and Approach

A. Organizational Roles and Responsibilities
   1. Oversight Group
   2. Operational Manager
   3. Technical Manager
   4. Transition Manager
   5. Supporting Participants
B. Programmatic
   1. Schedule
   2. Funding [by source / year]
   3. Spend Plan [by task / by year]
   4. Supporting Programs

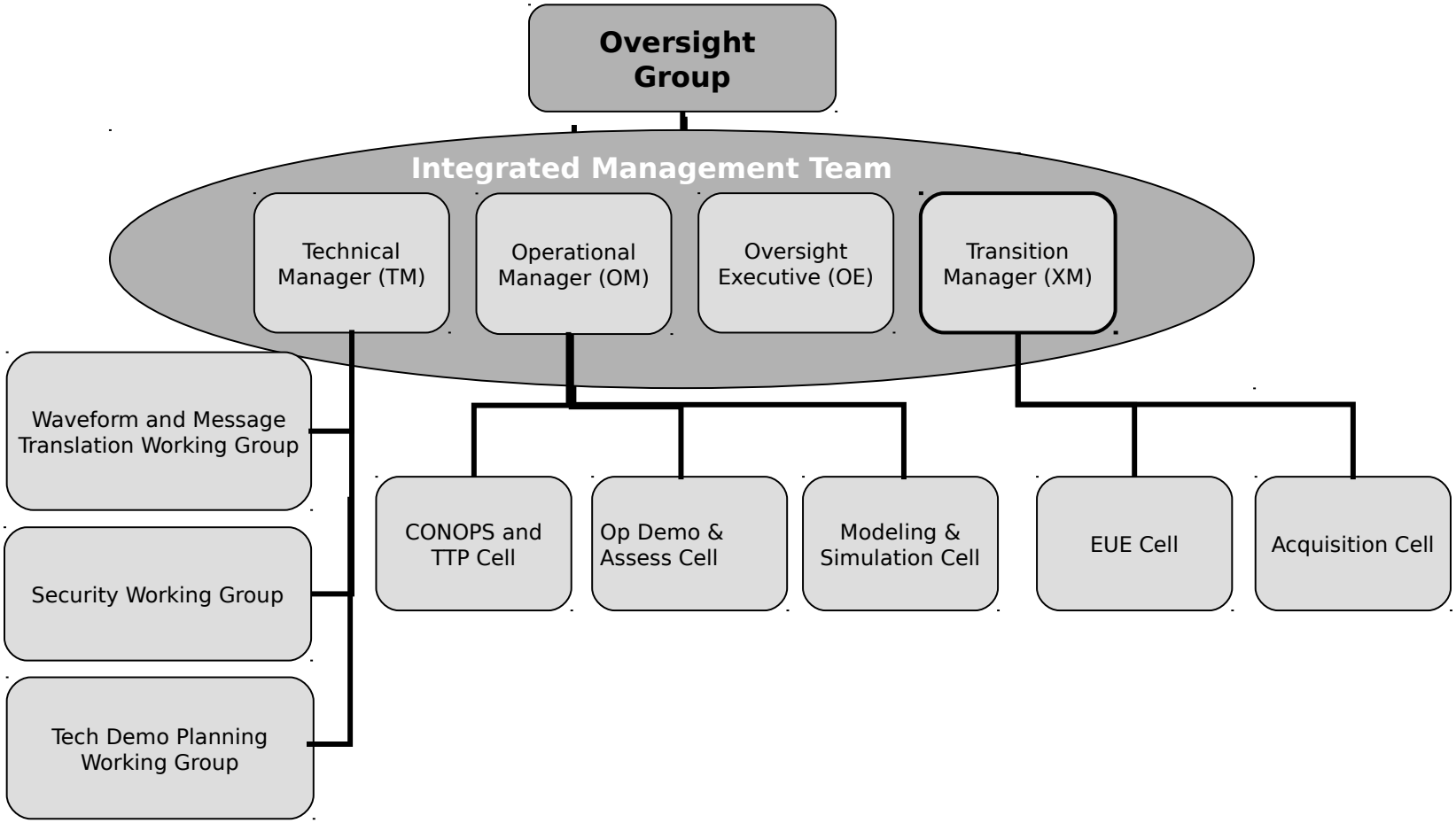
VI. Equipment, Facilities, Ranges / Sites

VII. Acquisition and Contracting Strategy

VIII. Risk Management and Mitigation Approach

Serves as Management Plan Framework

A / JCTD Team Organization (example)



Preliminary Transition Plan

Table of Contents (example)

I. Overview
- A. Capabilities Summary
- B. A / JCTD Executive Summary
- C. Overall Transition Strategy
- D. Description of Products
- E. Quantified / Qualitative Entrance Criteria
- F. Operational View-1

II. Extended User Evaluation (EUE) of Residual Package
- A. Overall EUE Strategy
- B. Residual Package

III. Follow-on Development, Production, Fielding and Sustainment
- A. Overall Strategy
- B. Targeted POR / Programs / Capabilities [POR Sheets]
- C. Configuration Management

IV. Schedule

V. Funding

VI. Transition Management
- A. Transition IPT
- B. Transition Planning Reviews

Appendix to Management Plan

Preliminary Transition Plan
Table of Contents (example)

VII. PPBE Strategy

VIII. Training Strategy / Methods

A. EUE of Residual Package

B. Follow-on Development, Production, Fielding and Sustainment

IX. Joint Interoperability and Integration

X. Risk Management

XI. Affordability

XII. Documentation

XIII. Conclusions and Recommendations

Appendix to Management Plan

Preliminary Transition Plan

- **POR Title**
- **POR Description**
- **POC**
- **Transition Products**
- **Key Transition Steps / Actions / Activities**
- **Transition Timeline**
- **Funding (i.e., delta for development, production, sustainment, training)**
- **Major Issues and Solutions**
- **Technical, Cost and Schedule Risk**

Appendix to Management Plan

Proposal Outline / Package

Cover

A. Joint / Coalition Warfighting Problem

B. Desired Warfighting Capabilities

C. Advanced / Joint Capabilities Solution

D. Demonstration Strategy

E. Schedule

F. Funding Tables

1. Per FY / Per Source
2. Per FY / Per Source

Add Briefing & Quad Chart

G. Risk Assessment

H. Key Participants, Responsibilities and Coordination Status

I. Transition Strategy and Residual Capability

J. Schedule

K. Points of Contact

Implementation Directive

Table of Contents

Cover

Signature Page

A. Overall Objective

B. Joint / Coalition Warfighting Problem

C. Advanced / Joint Capabilities Solution

2-3 Pages

D. Key Participants & Responsibilities

E. Operational Parameters (Explain the operational context for the demonstration phase)

F. Transition Strategy and Residual Capability

G. Schedule

H. Funding Tables

1. Per FY / Per Source
2. Per FY / Per Task [Operational, Technical, Transition

I. Points of Contact